

What is claimed is:

1. A surgical device for thermally affecting soft tissue comprising a structure for enveloping and receiving at least a portion of a surgical instrument, wherein the structure is configured to control thermal energy transfer between the structure and the soft tissue.
2. The surgical device according to claim 1, further comprising a supply of thermo-conductive fluid in fluid communication with the structure.
3. The surgical device according to claim 1, further comprising a thermoelectric module in thermal communication with the structure.
4. The surgical device according to claim 1, further comprising a bundle of thermo-conductive fiber in thermal communication with the structure.
5. The surgical device according to claim 1, wherein the structure is configured to controllably cool the soft tissue.

6. The surgical device according to claim 1, wherein the structure comprises:

a sheath dimensioned to envelope an end of the surgical instrument, wherein the sheath includes an open proximal end and a closed distal end defining an interior surface and exterior surface; and

a fluid conduit containing a fluid inlet and a fluid outlet defining a fluid path through the fluid conduit, wherein the fluid conduit is shaped forming a thermal transfer region,

wherein the fluid conduit is affixed to the sheath.

7. The surgical device according to claim 6, wherein the sheath is made from a resilient elastic material.

8. The surgical device according to claim 7, wherein the fluid conduit is affixed to the exterior surface of the sheath.

9. The surgical device according to claim 7, wherein the fluid conduit is affixed to the interior surface of the sheath.

10. The surgical device according to claim 7, wherein the fluid conduit is integrated into the sheath.

11. The surgical device according to claim 7, wherein the fluid conduit is shaped forming a longitudinal thermal transfer region.
12. The surgical device according to claim 7, wherein the fluid conduit is shaped forming a horizontal thermal transfer region.
13. The surgical device according to claim 7, wherein the fluid conduit is shaped forming a spiral thermal transfer region.
14. The surgical device according to claim 1, wherein the structure comprises:
 - an adhesive patch including a top surface and a bottom surface; and
 - a fluid conduit containing a fluid inlet and a fluid outlet defining a fluid path through the fluid conduit, wherein the fluid conduit is shaped forming a thermal transfer region,wherein the thermal conduit is affixed to the top surface of the adhesive patch.
15. The surgical device according to claim 1, wherein the bottom surface of the adhesive patch comprises an adhesive coating.

16. A device for thermally affecting tissue comprising:

a fluid conduit including a fluid inlet and a fluid outlet, wherein the fluid inlet and the fluid outlet define a fluid path through the fluid conduit, the fluid conduit being shaped to form a thermal transfer region; and

a means for attaching the fluid conduit to a tissue contacting surface of a medical instrument.

17. The device for thermally affecting tissue according to claim 16, wherein the means for attaching the fluid conduit is a sheath dimensioned to envelope the tissue contacting surface of the medical instrument.

18. The device for thermally affecting tissue according to claim 16, wherein the means for attaching the fluid conduit to the tissue contacting surface of the medical instrument is an adhesive patch.

19. A surgical device for thermally affecting soft tissue comprising:

a structure for enveloping and receiving at least a portion of a surgical instrument having an open proximal end and a closed distal end defining an interior surface and exterior surface; and

a fluid conduit comprising a fluid inlet and a fluid outlet defining a fluid path through the fluid conduit, wherein the fluid conduit is configured to controllably cool the soft tissue the soft tissue,

wherein the fluid conduit is affixed to the exterior surface of the structure.

20. A surgical instrument for thermally affecting soft tissue comprising a tissue retractor having a spatula and a handle, wherein the handle is attached to the spatula and the spatula is configured to control thermal energy transfer between a tissue contact region and the soft tissue.
21. The surgical instrument according to claim 20, further comprising a supply of thermo-conductive fluid in fluid communication with the tissue contact region.
22. The surgical device according to claim 20, further comprising a thermoelectric module in thermal communication with the tissue contact region.
23. The surgical device according to claim 20, further comprising a bundle of thermo-conductive fiber in thermal communication with the tissue contact region.
24. The surgical device according to claim 20, wherein the tissue contact region is configured to controllably cool the soft tissue.
25. The surgical device according to claim 20, wherein the surgical instrument comprises a thermal transfer region, wherein the thermal transfer region is operable attached to the spatula to control thermal energy transfer between the tissue contact region and the soft tissue.

26. The surgical device according to claim 25, further comprising a thermally-conductive fluid source, wherein the thermally-conductive fluid source is connected to the thermal transfer region, such that a fluid path between the thermally conductive fluid source and the thermal transfer region is defined.

27. The surgical device according to claim 25, wherein the thermal transfer region comprises a fluid conduit shaped to form the thermal transfer region comprising a fluid inlet and a fluid out let defining a fluid path through the thermal transfer region.

28. The surgical device according to claim 25, wherein the thermal transfer region is integrated into to the spatula.

29. A device for thermally affecting tissue comprising:

a tissue retractor including a spatula and a handle, wherein the handle is attached to the spatula;

a thermal sheath containing a sheath and a thermal transfer region, the thermal transfer region being affixed to an exterior surface of the sheath, and the thermal sheath being operable attached to the spatula, such that the thermal transfer region will be in proximal thermal relation with the tissue; and

a thermally-conductive fluid source connected to the thermal transfer region, such that a fluid path between the thermally conductive fluid source and the thermal transfer region is defined.

30. The device for thermally affecting tissue according to claim 29, wherein the handle is hollow comprising a handle lumen having a proximal lumen end and a distal lumen end.

31. The device for thermally affecting tissue according to claim 30, wherein said handle further comprises a fluid lumen inlet conduit and a fluid lumen outlet conduit position within the handle lumen, and operatively connected to the thermal transfer region and the thermally-conductive fluid source, such that a fluid path between the thermally conductive fluid source and the thermal transfer region is defined

32. A method of thermally treating an area of soft tissue comprising the steps of:
providing a tissue retractor comprising a thermal transfer region;
retracting the soft tissue such that the thermal transfer region is in thermal communication with the retracted soft tissue; and
creating a temperature differential between the soft tissue and the thermal transfer region, such that thermal energy is transferred between the soft tissue and the thermal transfer region.